

## Claims

What is claimed is:

1. Apparatus for use in managing a service level associated with resources in an information technology (IT) system based on financial terms, the apparatus comprising:

5 at least one processor operative to: (i) maintain an electronic contract that contains information pertaining to descriptions of one or more business transactions in IT terms, financial implications of one or more business transaction service levels, and reporting to be performed in one or more financial terms; and (ii) measuring the operation of the IT system in terms of one or more business metrics based on the electronic contract; and

10 memory, operatively coupled to the at least one processor, for storing at least one of the electronic contract and results of the measurement operation.

2. The apparatus of claim 1, wherein the measuring operation comprises monitoring one or more IT parameters and evaluating results in terms of the one or more business metrics.

15 3. The apparatus of claim 2, wherein the evaluating operation is performed in real time or at a subsequent time.

4. The apparatus of claim 1, wherein the measuring operation comprises accumulating a historical collection of IT data and evaluating results in terms of the one or more business metrics.

20 5. The apparatus of claim 1, wherein the measuring operation comprises collecting measurement data from one or more sources, combining the collected measurement data, and interpreting the collected measurement data in terms of the one or more business metrics.

6. The apparatus of claim 1, wherein the measurement operation comprises monitoring hardware characteristics of the IT system.

7. The apparatus of claim 6, wherein the hardware characteristics comprise at least one of temperature and power consumption.

5 8. The apparatus of claim 1, wherein the measurement operation comprises monitoring software characteristics of the IT system.

9. The apparatus of claim 8, wherein the software characteristics comprise at least one of bandwidth usage, availability, response time, and latency.

10 10. The apparatus of claim 1, wherein the IT system comprises a collection of hardware and software intended to store or deliver data in a digital form.

11. The apparatus of claim 1, wherein the one or more business metrics comprise a measurement that directly measures the performance of a business.

12. The apparatus of claim 12, wherein the measurement comprises at least one of an operational cost, customer satisfaction, and relative industry performance.

15 13. The apparatus of claim 1, wherein the one or more business metrics are converted to one or more financial equivalents.

14. The apparatus of claim 13, wherein the one or more financial equivalents comprises at least one of a cost of each lost connection, a cost per second of down time, and a relationship between revenue and network latency.

15. The apparatus of claim 1, wherein results of the one or more business metrics are used to set IT parameters.

16. The apparatus of claim 1, wherein the one or more business metrics are reported to one or more parties.

5 17. The apparatus of claim 1, wherein the one or more business metrics are aggregated so as to obscure details reported to a third party.

18. The apparatus of claim 1, wherein reporting is performed in financial terms based on the electronic contract.

10 19. The apparatus of claim 1, wherein enactment is performed based on financial optimizations using the electronic contract.

20. The apparatus of claim 1, wherein the one or more business metrics to monitor are inferred from the electronic contract.

15 21. Computer-based apparatus for use in managing a service level associated with resources in an information technology (IT) system based on financial terms, the apparatus comprising:

an electronic contract manager module operative to interpret an electronic contract to report on and optimize IT resources based on one or more financial terms; and

20 one or more electronic contract agent modules, operatively coupled to the manager module and residing in one or more elements of the IT system being monitored, operative to enable monitoring, reporting, and enforcing the electronic contract expressed in the one or more financial terms.

22. The apparatus of claim 21, further comprising an electronic contract authoring system, operatively coupled to the manager module, operative to construct one or more electronic contracts that contain information pertaining to descriptions of one or more business transactions in IT terms, financial implications of one or more business transaction service levels, and reporting to be performed in the one or more financial terms.

23. The apparatus of claim 21, wherein the manager module is further operative to: (i) identify one or more business transactions; (ii) compute one or more transaction service levels; and (iii) compute one or more business metrics based on the one or more service levels; and (iv) reporting results associated with the one or more business metrics.

24. The apparatus of claim 21, wherein the manager module is further operative to: (i) identify one or more business transactions; (ii) forecast the one or more transactions over an enactment interval; (iii) predict performance and determine optimizations based on financial criteria; and (iv) initiate actions based on the predicted performance and the determined optimizations.

25. A computer-based method for use in managing a service level associated with resources in an information technology (IT) system based on financial terms, the method comprising the steps of:

automatically maintaining an electronic contract that contains information pertaining to descriptions of one or more business transactions in IT terms, financial implications of one or more business transaction service levels, and reporting to be performed in one or more financial terms; and

automatically measuring the operation of the IT system in terms of one or more business metrics based on the electronic contract.

26. The method of claim 25, wherein the measuring step comprises monitoring one or more IT parameters and evaluating results in terms of the one or more business metrics.

27. The method of claim 25, wherein the measuring step comprises accumulating a historical collection of IT data and evaluating results in terms of the one or more business metrics.

28. The method of claim 25, wherein the measuring step comprises collecting measurement data from one or more sources, combining the collected measurement data, and interpreting the collected measurement data in terms of the one or more business metrics.

29. The method of claim 25, wherein the measurement operation comprises monitoring at least one of hardware and software characteristics of the IT system.

30. The method of claim 25, wherein the IT system comprises a collection of hardware and software intended to store or deliver data in a digital form.

31. The method of claim 25, wherein the one or more business metrics comprise a measurement that directly measures the performance of a business.

32. The method of claim 25, wherein the one or more business metrics are converted to one or more financial equivalents.

33. The method of claim 25, wherein results of the one or more business metrics are used to set IT parameters.

34. The method of claim 25, wherein the one or more business metrics are reported to one or more parties.

35. The method of claim 25, wherein the one or more business metrics are aggregated so as to obscure details reported to a third party.

5 36. The method of claim 25, wherein reporting is performed in financial terms based on the electronic contract.

37. The method of claim 25, wherein enactment is performed based on financial optimizations using the electronic contract.

10 38. The method of claim 25, wherein the one or more business metrics to monitor are inferred from the electronic contract.

39. An article of manufacture for use in managing a service level associated with resources in an information technology (IT) system based on financial terms, comprising a machine readable medium containing one or more programs which when executed implement the steps of:

15 automatically maintaining an electronic contract that contains information pertaining to descriptions of one or more business transactions in IT terms, financial implications of one or more business transaction service levels, and reporting to be performed in one or more financial terms; and

20 automatically measuring the operation of the IT system in terms of one or more business metrics based on the electronic contract.